

Application No. 09/976,537  
Amendment dated June 15, 2004  
Reply to Office Action of March 15, 2004

### **REMARKS/ARGUMENTS**

Responsive to the Official Action mailed March 15, 2004, applicants have further amended the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, independent claims 1 and 11 have been amended. Reconsideration is respectfully requested.

As discussed in the Specification, applicants' differentially entangled nonwoven fabric construct has found particular utility in those applications requiring a combination of softness and lint-resistance, such as for wipes and the like.

As disclosed, this is achieved by forming the fabric from *carded cotton fibers*, preferably cross-lapped, or a *carded, cotton/synthetic fiber blend*, also preferably cross-lapped. As specifically claimed, the fabric is *differentially entangled*, that is, highly entangled at each outer surface, and less entangled internally. It is respectfully maintained that there is no teaching or suggestion in the cited prior art of forming such a construct, admitted by the Examiner to be novel.

In the Action, the Examiner has rejected the pending claims under 35 U.S.C. §112, objecting to applicant's characterization of the fibrous batt from which the material is formed as "homogeneous". This rejection is respectfully traversed. As previously noted, this language was included in the claims to differentiate from prior art such as cited by the Examiner which includes *a scrim, substrate, or woven fabric*, and which is thus *non-homogeneous* in composition. It is respectfully maintained that those skilled in the art would readily understand from applicants' disclosure that the claimed homogeneous fiber blend may comprise more than one type of fiber, but

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would not require a scrim, woven fabric, or like supporting structure, as contemplated by the prior art. Applicants would be pleased to consider such other language as the Examiner may consider to be appropriate, but it is respectfully maintained that this claim terminology is well understood by those skilled in the art, in light of applicants' specific disclosure, and in full compliance with 35 U.S.C. §112.

In the Action, the Examiner has rejected the pending claims under 35 U.S.C. §103, with reliance upon newly cited U.S. Patent No. 4,569,883, to Renjilian, with continued reliance upon U.S. Patent No. 5,801,107, to Everhart et al. However, it is respectfully maintained that these references simply do not teach or suggest applicants' admittedly novel fabric, even when combined, and accordingly, the Examiner's rejection is respectfully traversed.

It is important to note that the principal Renjilian reference is specifically limited in its teachings to a *multi-layer construct including a woven fabric*. As such, this reference cannot teach or suggest formation of a nonwoven homogeneous fabric from *carded and cross-lapped fibers*, as specifically claimed. This is a fundamental shortcoming in the teachings of this principal reference.

Moreover, the principal Renjilian reference fails to teach or suggest *hydraulic entanglement* as specifically claimed. Rather, Renjilian is limited in its teachings to *mechanical needling*, such as disclosed in referenced U.S. Patent No. 2,059,132.

The significance of this cannot be over-emphasized. Mechanical needling, typically effected with barbed needles, can be highly disruptive and damaging to the fibers of a fabric construct. Moreover, use of such mechanical needling *teaches*

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away from the claimed *differential entanglement* achieved in accordance with applicants' disclosed invention. This aspect of the Renjilian reference shows that there is no recognition or teaching in this reference of the desirability of differential entanglement, much less any teaching as to how it should be effected.

Given the clear deficiencies in the teachings of the principal reference relied upon by the Examiner in her rejection, it is respectfully maintained that careful study of the secondary Everhart reference is appropriate to see that it can be properly combined with Renjilian in rejecting the pending claims under 35 U.S.C. §103. However, it is respectfully submitted that Everhart clearly fails to overcome the deficiencies in Renjilian.

As previously discussed, Everhart contemplates the integration of plural fibrous layers, including wood pulp and *mesh* layers, and thus does not teach or suggest a *homogeneous* fibrous structure. As noted, Everhart et al. contemplates that a liquid transport material be formed "composed of pulp fibers hydraulically needled into a nonwoven fibrous structure" (column 5, lines 37-40). Thus, this reference does not teach the formation of a fabric as claimed, including *differential entanglement* by application of hydraulic energy. Since Everhart et al. is concerned with the integration of wood pulp fibers with an underlying supporting substrate, there is no reason to believe that one skilled in the art would consider its teachings in modifying the principal Renjilian reference in arriving at the differentially entangled, homogeneous fibrous fabric of applicants' invention.

In the Action, the Examiner relies upon Renjilian for its teachings of needling both sides of the fabric, but as noted, this reference fails to teach or suggest use of hydraulic entanglement. As previously noted, it would be *contrary to the teachings* of Everhart et al. to hydraulically entangle *opposite surfaces thereof*, in accordance with applicants' invention. Because Everhart is *specifically limited in its teachings* to the integration of a wood pulp fibrous structure with an associated *mesh fabric*, it would be contrary to this reference to suggest that its teachings should be modified to effect application of hydraulic energy to opposite surfaces thereof. This would inevitably result in the wood pulp fibers being washed out of the mesh fabric.

In the Action, the Examiner acknowledges that the Renjilian and Everhart et al. references "do not explicitly teach the claimed highly entangled outer surface region and lightly entangled inner core region". However, it is respectfully maintained that it is *not reasonable* to presume that this claimed feature of applicants' invention would be inherent from the combined teachings of these references. Renjilian et al. is limited in its teachings to the integration of multiple layers to form wet-press felts, which include a base layer 11 of interwoven machine direction and cross-direction textile monofilament yarn (column 5, lines 21 *et seq.*). Thus, there is no teaching or suggestion of a homogeneous structure, in accordance with the present invention.

Moreover, there is no teaching or suggestion of hydraulic entanglement of opposite surfaces, but rather, integration of the various layers by mechanical

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needling. There is no recognition of *differential entanglement* as being needed or desired.

The Examiner relies upon Everhart et al. for its teachings of hydraulic entanglement, yet there is no teaching in this reference of hydraulically entangling opposite surfaces of a fabric structure to achieve differential entanglement.

In the Action, the Examiner has stated that the "burden is upon applicant" to establish that a varying degree of entanglement is not inherent in the combined teachings of Renjilian and Everhart. However, applicants must respectfully refer to M.P.E.P. Section 2143.01, which specifically admonishes that "the proposed modification cannot render the prior art unsatisfactory for its intended purpose." It is improper to rely upon Everhart et al. for its teachings of hydraulic entanglement, since this reference does not teach hydraulic entanglement of opposite surfaces to achieve differential entanglement, especially since treatment of the opposite surfaces of the disclosed construct would tend to wash the pulp fiber off of the underlying mesh structure. Clearly, this is acting to "render the prior art unsatisfactory for its intended purpose."

Moreover, the M.P.E.P. admonishes that the "proposed modification cannot change the principle of operation of a reference." Applicant must respectfully maintain that to rely on two references, both of which contemplate inclusion of woven, scrim, mesh, or other supporting layers, is completely contrary to applicants' claimed fabric construct, and thus clearly *does change* the principal of operation of the references.

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In view of the foregoing, formal allowance of claims 1, 4, 6, 7, and 11 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fee which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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**CERTIFICATE OF MAILING**

I hereby certify that this Amendment is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **June 15, 2004**.

